

Name:

Date:

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PART A In the space on the left, write the letter of the term or phrase which **best** completes the statement or answers the question (1 mark each).

- _____ 1. Combustion reactions involve reacting a _____ with oxygen.
 - a. Salt
 - b. Base
 - c. Hydrocarbon
 - d. Metal

- _____ 2. _____ reactions involve combining two or more reactants to form a single product.
 - a. Synthesis
 - b. Decomposition
 - c. Single replacement
 - d. Double replacement

- _____ 3. Classify the following reaction: $\text{Ca(OH)}_2 + \text{H}_2\text{SO}_4 \rightarrow 2\text{H}_2\text{O} + \text{CaSO}_4$.
 - a. Single replacement
 - b. Neutralization
 - c. Combustion
 - d. Synthesis

- _____ 4. Which of the following when it is increased does not increase the rate of reaction?
 - a. Temperature
 - b. Concentration
 - c. Surface area
 - d. Volume

- _____ 5. Increasing the temperature of a reaction increases the rate of the reaction by ...
 - a. Decreasing the activation energy
 - b. Lowering the energy of the reactants
 - c. Increasing the number of collisions among particles
 - d. Increasing the surface area

- _____ 6. Classify the following reaction: $2\text{CaO} + 2\text{F}_2 \rightarrow \text{O}_2 + 2\text{CaF}_2$.
 - a. Single replacement
 - b. Synthesis
 - c. Double replacement
 - d. Decomposition

- ___ 7. This type of reaction has only one reactant.
- Neutralization
 - Decomposition
 - Synthesis
 - Combustion
- ___ 8. Carbon dioxide is the product of which of the following reaction types?
- Decomposition
 - Neutralization
 - Single replacement
 - Combustion
- ___ 9. Classify the following reaction: $2\text{NaClO}_3 + 3\text{O}_2 \rightarrow 3\text{O}_2 + 2\text{NaCl}$.
- Single replacement
 - Decomposition
 - Synthesis
 - Double replacement
- ___ 10. Which reaction type has water and a salt as its products?
- Neutralization
 - Combustion
 - Decomposition
 - Single replacement

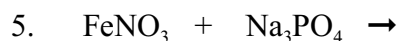
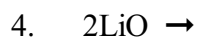
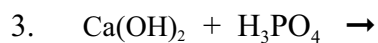
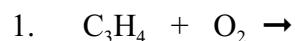
PART B In the space provided mark each of the following as true or false. (1 mark each)

- ___ 1. One of the products of a double replacement reaction is a precipitate.
- ___ 2. Catalysts are used up in a reaction.
- ___ 3. Oil refineries use catalysts to speed up reactions.
- ___ 4. Synthesis reactions involve producing many different products.
- ___ 5. Neutralization reactions form carbon dioxide and water
- ___ 6. Lowering the concentration of the reactants helps speed up the reaction rate.
- ___ 7. Combustion reactions involve burning hydrocarbon in the presence of oxygen.
- ___ 8. Single replacement reactions only occur between Ionic compounds and a metal.
- ___ 9. Increasing the temperature of a reaction increases the rate of the reaction.
- ___ 10. Increasing the surface area of iron can allow it to react quicker with oxygen.

PART C In the space provided, match each term or phrase with the best definition. (1 mark each)

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| ___ 1. Neutralization | A. A reactant in a combustion reaction. |
| ___ 2. Surface area | B. A reaction involving an acid in the base |
| ___ 3. Catalyst | C. A measure of how quickly or slowly a reaction occurs. |
| ___ 4. Reaction type | D. Describes the category under which a reaction falls. |
| ___ 5. Hydrocarbons | E. An example of this type of reaction is $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$ |
| ___ 6. Synthesis | F. A reaction that produces only one product. |
| ___ 7. Reaction rate | G. A measure of how much area is exposed. |
| ___ 8. Single replacement | H. Amount of solute dissolved in a specific amount of solution. |
| ___ 9. Decomposition | I. A reaction that only produces one product. |
| ___ 10. Concentration | J. Speeds up a reaction rate without being consumed in the reaction. |

PART D Complete **AND** balance the following reactions, then classify the reactions as synthesis, decomposition, single replacement, double replacement, neutralization, or combustion. (3 marks each: 2 for the completed and balanced reaction, and 1 for the correct classification)



PART E Each of the following questions requires a short answer.

1. Explain what reaction rate is. (1 mark)
2. Describe how temperature affects reaction rate. (1 mark)
3. Describe how concentration affects reaction rate. (1 mark)
4. Describe how surface area affects reaction rate. (1 mark)
5. Describe how a catalyst affects reaction rate. (1 mark)